International Journal of Innovative Research and Advanced Studies (IJIRAS)
Volume 5 Issue 5, May 2018

ISSN: 2394-4404

A Study Of Maternal Behavior Change On Complementary Feeding Of U2 Years Children Between Urban And Rural Area Of Bangladesh

Dr. Atish Kumar Bachhar

Md. Obaidur Rashid

Md. Maksudur Rahman

Solidaridad Network Asia, Bangladesh

Anuja Mandal

Environmental Science, Khulna University, Bangladesh

Shahnaj Parvin

Dept. of Food Technology & Nutritional Science, MBSTU, Bangladesh

Abstract: ***Complementary feeding is critical concern for physical and mental development of U2 children during the growing up age. Children feeding behaviour change of mother and caregivers considerable to complete this study. In this regards, cross sectional study carried out to determine feeding behaviour, health and nutrition practices of 6-23 month children. The study variables were mother and caregiver sex, education, occupation, family size, age of children, breastfeeding and feeding practices. Most of the mother completed their primary education but in rural areas only 6% totally illiterate. 100%, 92% rural and urban mothers were housewife whereas only 8% urban mother involved productive activities likes business and service. Exclusive breastfeeding of U2 children were visible difference in rural area 80% then urban area 68%. More than 80% both rural and urban mothers initiated complementary feeding during 6-8 month age of children unfortunately less than 5% timely initiated complementary feeding when aged 9-11 and 12-23 month of children. 52% urban mother were used familial food as a complementary feeding which higher of rural areas. In urban areas age appropriate amount of feeding 92% is higher than that of rural areas 62%. According to the consistency of complementary nourishing practices at urban area 98% where low in rural area 36%. Most of the rural & urban respondents acknowledged on complementary feeding practices from NGOs workers whereas only fewer number from Govt. health worker and others sources because of lower number service provider, lack of competence of govt. health worker, mentality of service provider and less importance of media coverage. 78% rural children were well-nourished +3SD but still gap found between urban areas 44% and severely malnourish <-SD both area less than 15 %.***

Keywords: Exclusive Breastfeeding, Complementary Feeding, IYCF, Malnutrition.

I. INTRODUCTION

Complementary feeding should be started in addition to breast milk from 6 months onwards. Education of the mothers is considered to have a great impact on infant's nutritional status (Maha, *et al*, 2013). Complementary feeding interventions are usually targeted at the age range of 6–24 months which is the time of peak incidence of growth faltering, micronutrient deficiencies and infectious illnesses in developing countries. After 2 years of age, it is much more difficult to reverse the effects of malnutrition on stunting, and some of the functional deficits may be permanent. Therefore, interventions that are effective at reducing malnutrition during this vulnerable period should be a high priority (Kathryn, *et al*, 2008).

Poor nutrition leads to ill health, and ill health causes further deterioration in malnutrition. These effects are most dramatically observed in infants and young children, who bear the brunt of the onset of malnutrition and suffer the highest risk of disability and death associated with it. Globally, malnutrition has been responsible directly or indirectly for 60.0% of the 10.9 million deaths annually among children under five (WHO, 2003).

Studies showed 14% had not started on complementary foods at all and only 40% received complementary feeding at 6 months. Most common reason for inappropriate practices who delayed complementary feeding was "tried but failed as child vomits or throws out food" (40%). Knowledge regarding appropriate timing of initiation of complementary feeding and feeding commercial infant foods did not vary with maternal education. However maternal knowledge had a significant impact on the consistency of the feed that was offered to infants (p= 0.041). Regarding feeding practices by food groups, animal milk (86%) was predominantly given. Most common food belief amongst majority of the mothers was that feeding banana, curd causes cold and cough. Prevalence of anemia and constipation was 44% and 50% respectively. Thus it was concluded that Complementary feeding practices were inappropriate and also the gap between knowledge and practice should be filled with proper interaction and education of mothers and family members (Shivani, *et al*, 2013).

AIMS Pakistan conducted studies in residential colony to assess the complementary feeding practices where 84% infants were received complementary feeding in addition to milk, 16% were practicing delayed complementary feeding. Even several problems were observed in early complementary feeding which revealed infrequent feeding, usage of expensive commercial cereals in diluted form, improper food preparation practices etc. The study concluded that mothers of this community lacked knowledge in appropriate complementary feeding practices and balanced diet (Razia, *et al*, 2007).

India Studied on Infant and Young Child Feeding (IYCF) establish proportions of infants with early initiation of breastfeeding 13.6%, exclusive breastfeeding fewer than six months 57.1% and infants who received complementary feeding at the age of 6–8 months 55.7% were low. Appropriate feeding as per the IMNCI protocol was significantly less among infants aged 6–11 months 15.2%, children aged 12–23 months 8.7% and compared to infants aged less than six months (57.1%), which could be attributable to low frequency and amount of complementary feeding (Apurba, *et al*, 2010).

A study was conducted on health Seeking Behavior, food habit and nutritional assessment of an elderly group in Ife, Nigeria (2013). The results revealed health behaviors included going for medical check-ups (38%) the use of quality drugs (70%) and a preference for traditional medicine (28%), nutrition knowledge and body mass index (BMI) correlated significantly with health behavior ($p<0.05$). The mean nutritional vulnerability score was higher for women than men ($p<0.05$). The most vulnerable elders were those that patronized traditional health facility, fell sick weekly and had inconsistent access to food (Olayiwola, *et al*, 2013).

II. METHODOLOGY

TYPE OF STUDY

A cross sectional study was carried out to determine the Maternal Behavior Change on Complementary Feeding of U2 Years Children between Urban and Rural Area in Barisal District, Bangladesh.

BASIS FOR SELECTION OF STUDY PLACE

The place was easy access for communication where the study was performed. Both urban and rural areas were easy demonstrative of Bangladesh. Respondent were given commitment to cooperate of this study.

SAMPLE POPULATION

138 mothers/caregivers of U2 year age children were selected from urban and rural areas of south west part of Bangladesh & non-randomized purposive sampling methods were applied.

SAMPLE SIZE DETERMINATION

The sample size was determined by using the following formula;

$$n = \frac{z^2(pq)}{d^2}$$

Where,

n = desire sample size

z = standard normal deviate with at 95% level of confidence =1.96

p = Mothers were associated with complementary feeding behavior [10%=0.1]

q= 1-p [1-0.1=0.9]

d= acceptable sample error=5%= 0.05

DATA COLLECTION TOOLS AND TECHNIQUE

Pre-codded well designed structure questionnaires were developed to collect the proper information from respondents regarding demographic status, health condition, feeding behavior, nutrition status and health seeking behaviour. After field trail questionnaires were finalized for implementation of this study.

DATA ANALYSIS

Collected data was edited and analysis by using SPSS, Excel and MS words.

III. DISCUSSION

Complementary feeding is the additional food which should be started after completion of six months of age. The socioeconomic condition is an important factor to determine the standard of life which is closely related to the quality, quantity and variety of food family should be choice.

ISSN: 2394-4404

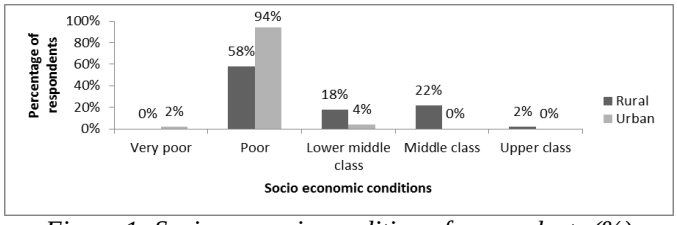

Figure 1: Socioeconomic condition of respondents (%)

Figure 1 shows in urban areas most of the population 94% is poor whereas in rural areas 58% poor, 18% lower middle class. Socioeconomic determinants of child nutritional status differ across urban and rural areas depends on socioeconomic condition, education, and care practices (Lisa, *et al*, 2005; Katiyar, *et al*, 1981).

Figure 2 shows present studies evaluate that urban respondents are more educated than rural respondents, almost all components of primary, secondary and higher studies. All rural mother respondents were housewife where a number of mothers were service holders and engaged with business in urban area. In rural area, mothers are engaged with familial works whereas in urban area women are besides their familial works engaged with small business and services.

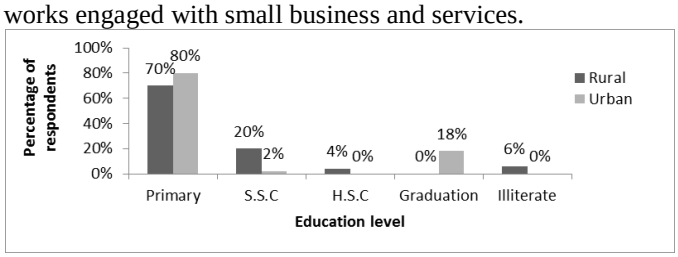

Figure 2: Percentages of respondent's education status

Studies indicate the possible relationship association between maternal education and complementary feeding practice. Majority of infants falling in various degree of malnutrition belonged to uneducated mother & most of the educated mother started complementary feeding at 6 months of age & also maintained frequency, quality and amount of food than that of uneducated mothers (Perveen *et al*, 2006; Singh, *et al*, 1997; Pant, *et al*, 1990).

Figure 3 shows exclusive breastfeeding practices in rural area far difference 80% than urban area 78%. This is due to several maternal and child health and nutrition programs are ongoing at rural areas by both government and non-government organizations and also the milk substitute purchasing capacity of family. As a result decrease the disease prevention capacity of infant and finally malnourished.

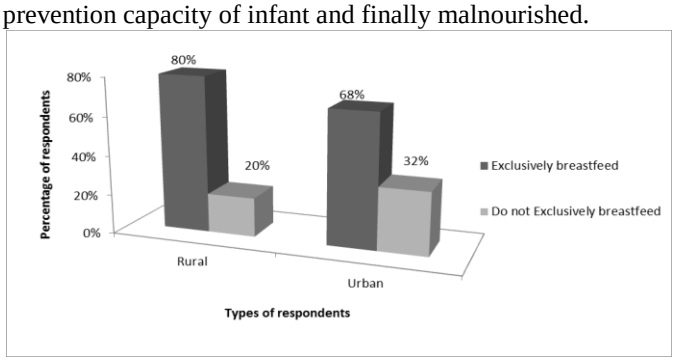

Figure 3: Percentage of respondent's exclusively breastfeed of children

Previous studies show 43.5% mothers initiated breastfeeding within one hour of birth and 60.5% practiced exclusively breastfeeding and the main problem for malnutrition is late start of breastfeeding and low rate of continuing exclusively breastfeeding until 6 month (Sinhababu, *et al*, 2008:*Patel*, et al, 2010). Bangladesh Demographic and Health Survey found that the traint of exclusive breastfeeding 55% in bangladesh (BHDS, 2014).

Exclusive breast feeding is as essential up to six months after birth of a baby and after that complementary feeding is a key for the growth of a baby. Table 1 expresses that, in rural area 18% children started complementary feeding before 6 months of age and 82% children started complementary feeding within 6-8 months of age. In urban area, 12% babies started complementary feeding before 6 months, 80% babies started within 6-8 months. In both areas, 9-11 and 12-23 month age of children have alarming situation for timely introduction of complementary feeding. This is due to the knowledge gap of mothers and family members.

Time line	Rural %	Urban %
Before 6 months	18 %(9)	12%(6)
6-8 months	82%(41)	80%(40)
9-11 months	0%(0)	4%(2)
12-23 months	0%(0)	2%(1)
Don't know	0%(0)	2%(1)

Table 1: Percentages of respondents timely initiated complementary feeding

Studies show the appropriate feeding as per the IMNCI protocol was significantly less among infants aged 6–11 months 15.2%, children aged 12–23 months 8.7% and compared to infants aged less than six months 57.1%, which could be attributable to low frequency and amount of complementary feeding (Razia, *et al*, 2007). Another studies conducted a study on sources of information for complementary feeding practice and found that nurses and other health professions should take prime responsibility dissemination of knowledge of complementary feeding practice (Rachael Bryan, 2006).

Table 2 illustrates that, 92% urban respondent's feed their children appropriate amount of foods according to age which is lower in 62% urban area. Main reason of this deviation is lower food diversification, income and family expenditure gap between rural and urban family.

Age Specific			Consistency Specific		
Items	Rural (%)	Urban (%)	Items	Rural (%)	Urban (%)
Appropriate Amount	62	92	Liquid	40	0
Inappropriate Amount	38	8	Semi Solid	36	98
			Solid	24	2

Table 2: Distribution of respondent according to the age and consistency specific complementary feeding practices

On the other hand, out of 138 respondent total 98% of urban mother introduce semi solid, 2% solid food whereas 24% respondent's solid, 36% semi solid and 40% feed liquid food in rural area. Frequently up and down of this feeding practices due to the lack of knowledge, migration, social misconception and feeling of mothers.

The tables 3 illustrates that, Most of the rural & urban respondents acknowledged on complementary feeding practices from NGOs workers whereas only fewer number

ISSN: 2394-4404

from Govt. health worker and others sources because of lower number service provider, lack of competence of govt. health worker, mentality of service provider and less importance of media coverage.

Types	NGO's	Govt. Health Worker	Media(Radio /TV)	Book/News paper
Rural (%)	84	10	6	0
Urban (%)	65	10	20	5

Table 3: Source of information of complementary feeding (%)

Figure 4 express that, in rural areas most mother informed malnutrition of the children and are receiving growth monitoring and promotion services than that of urban areas. This is due to community clinic activities, health and nutritional activities of some non-government organizations. In rural areas most of the mothers know the nutritional status of their children whereas most of the respondents at urban areas do not know the nutritional status of their children. Both urban and rural areas almost same number of children suffered from severe acute malnutrition.

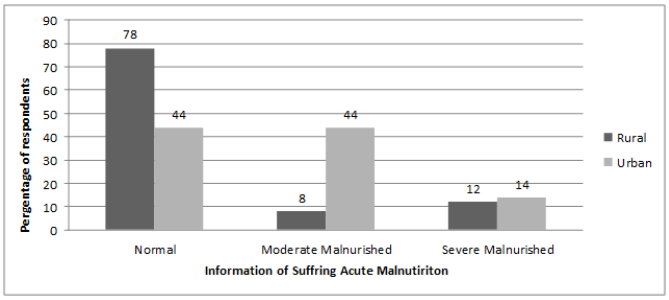

Figure 4: Percentage of suffering history of severe acute malnutrition

Recent study found stunting, wasting and underweight is more prevalent among those mothers who do not maintain age specific and right amount of complementary feeding and also food diversity (Rahman, *et al*, 2009-10).

IV. CONCLUSION

Adequate nutrition forms the basic foundation of health throughout the life. Most mothers and care givers know little about how much food a child needs for adequate growth and development. Hence the advice given is often inaccurate and conflicting. Insufficient complementary feeding may lead to nutritional stunting, wasting and also underweight. The study found that, though the socioeconomic condition is lower in urban zone than rural, the educational status is higher in urban area compared to that of rural area. For this, age appropriate amount of complementary feeding, consistency of the food, food diversity are maintained properly in urban area than rural. The urban respondents are also aware about health caring behavior & received health care service from hospitals and NGO clinics because of easy accessibility. Studies clear find that, the socioeconomic condition can control the food quality of a family but, the feeding quality as well as the nutritional status of children as well the whole family is mainly governed by some other factors like maternal education, knowledge about nutrition of family members and also the awareness. Although there is a heavy influence of advertisements and internet on day to day life, there is a need for mother's education for sound and appropriate amount of complementary feeding practices and in particular advice on how, when and why and with to feed the child from what is easily available in the household. The gap between knowledge and practice should be filled with proper interaction and education about the significance of timely appropriate complementary feeding of children.

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